

## **Template: Symposium - Nordic Meeting in Neuropsychology 2024**

**Title of symposium:** More real than ever – the application of virtual realities in health and rehabilitation

### **Chair:**

Marianne Løvstad, Head of psychology, Sunnaas Rehabilitation Hospital and Professor, University of Oslo

### **Presenters:**

- Albert “Skip” Rizzo, Director, Medical Virtual Reality - Institute for Creative Technologies; Professor, Dept. of Psychiatry and School of Gerontology, University of Southern California, USA
- Martin Matre, Neuropsychologist/PhD candidate, Sunnaas Rehabilitation Hospital, Nesodden, Norway
- Truls Johansen, Occupational therapist/PhD candidate, Sunnaas Rehabilitation Hospital, Nesodden, Norway
- Michael Riegler, Professor SimulaMet and Oslo Metropolitan University, Norway
- Gunn Astrid Baugerud, Associate Professor, Oslo Metropolitan University, Norway

### **Brief description of symposium:**

Rizzo will talk about how the Evolution of Conversational Virtual Human (VH) Agents in Mental Healthcare has advanced with the growth of artificial intelligence (AI). VH representations can now perceive and act in a 3D virtual world, engage in face-to-face dialogues with real users, and exhibit human-like emotional reactions. Rizzo will provide an overview of research showing the benefits of using VH e.g. in the role of virtual patients for clinical training, as social skill trainers for persons with autism, and as online healthcare support agents with students and Veterans.

Matre and Johansen will describe the introduction of virtual reality (VR) into neurorehabilitation. Matre will present the rationale behind the development and validation of a Norwegian VR-version of a test of social cognition after brain injury. Johansen will describe a randomized controlled trial exploring the effect of using commercial VR-games in cognitive rehabilitation. The experiences of patients with brain injury in using VR will be explored, including how factors such as fatigue, motivation and presence is affected by VR training.

Baugerud and Riegler will describe the development and application of an artificial avatar in therapeutic intervention and engagement. They will delve into how AI technologies can transform therapeutic practices by providing interactive, personalized, and immersive experiences. Baugerud will emphasize how AI avatars can be used in training of communication skills and their potential to assist patients with anxiety and interpersonal communication challenges. Riegler will provide a technical overview, shedding light on the challenges and opportunities in the realm of AI-driven avatars.